INFORMATION: FAR 25.571 as Applied to Dehavilland DHC-8 Engine Mounts

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Advisory Circular 25.571-1 states, "Damage-tolerance design is required unless it entails such complications that an effective damage-tolerant structure cannot be achieved within the limitations of geometry, inspectability, or good design practice." This philosophy applies to all primary structure including engine mounts and landing gear. Landing gears have been certified to safe-life criteria simply because it is not practical to design to the more rigorous damage tolerant (fail-safe) criteria. Conversely, engine mounts on transport category airplanes typically have not been certified to safe-life criteria because it has been practical to meet the damage-tolerance (fail-safe) criteria. The advisory circular lists typical examples of structure that "might" not be conducive to damage-tolerance design. Past design experience indicates that engine mounts are conducive to damage-tolerance design and should therefore continue to meet this criteria.

Current FAA policy is to allow application of safe-life design criteria to only those components that can not meet the damage tolerance criteria without paying an undue design penalty. We believe that it is practical for all structures, except landing gears, to meet the damage-tolerance. criteria. The policy stated in the ANM-100 letter of March 6, 1981, should be applied to the DHC-8 unless DeHavilland can show the uniqueness of their design can not meet the damage-tolerance criteria.

Original Signed by
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